

S. Varner, et al.
Serial No. 09/888,079
Page 2 of 18

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-22. (cancelled).

23. (currently amended) A method for treating an eye comprising:

inserting into an eye a device comprising a piercing member having a proximal end and a distal end and a lumen defined therebetween and a cannula slidably disposed within the lumen piercing member, wherein the step of inserting the device into the eye comprises penetrating the eye with the piercing member and advancing the piercing member through the eye;
advancing the cannula through the piercing member lumen towards a treatment site;
piercing the treatment site with the cannula; and
treating the eye by administering and/or aspirating material through the cannula.

24. (previously presented) The method of claim 23 wherein the step of treating the eye comprises administering a therapeutic agent to the eye through the cannula.

25. (original) The method of claim 23 wherein the therapeutic agent is administered subretinally to the patient's eye.

26. (previously presented) The method of claim 23 wherein the maximum cross-sectional dimension of the piercing member is about 25 gauge or smaller.

27. (previously presented) A method of treating an eye, comprising:

piercing the eye with a piercing member and inserting the piercing member into the vitreous humor of the eye, the piercing member having a proximal end and a distal end and a lumen defined therebetween;
angling the piercing member in any direction so as to guide the cannula to any treatment site within the eye;

S. Varner, et al.
Serial No. 09/888,079
Page 3 of 18

advancing a cannula through the piercing member lumen and beyond the distal end of the piercing member;

guiding the cannula through the vitreous humor of the eye to the treatment site; and
treating the treatment site.

28. (original) The method of claim 27 wherein the step of guiding the cannula to the treatment site comprises:

advancing the cannula within the eye until the distal end of the cannula is within the treatment site.

29. (original) The method of claim 27 or 28 wherein the step of treating the treatment site comprises:

supplying a medicament through the cannula and into the treatment site via the distal end of the cannula.

30. (previously presented) The method of claim 27 wherein the medicament is selected from the group consisting of genes, proteins, cells, small molecule pharmaceuticals and sterile solutions.

31. (previously presented) The method of claim 27 wherein the step of treating the treatment site comprises withdrawing material from the treatment site into the distal end of the cannula.

32. (previously presented) The method of claim 27 wherein the step of piercing the eye with a piercing member comprises inserting the distal end of the piercing member into and through the eye's sclera.

33. (previously presented) The method of claim 27 wherein the treatment site is selected from the group consisting of the eye's retina and the eye's vitreous humor.

S. Varner, et al.
Serial No. 09/888,079
Page 4 of 18

34. (previously presented) The method of claim 27 wherein the treatment site is the eye's retina and the step of treating the treatment site comprises:

injecting medicament through the cannula and under the retina such that a dome-shaped retinal detachment is formed.

35. (previously presented) The method of claim 27 wherein the outer diameter of the piercing member is about 25 gauge or smaller.

36. (canceled)

37. (cancelled)

38. (previously presented) The method of claim 23 wherein the cannula comprises a polymer.

39. (canceled)

40. (canceled)

41. (previously presented) The method of claim 24 wherein a steroid is administered to the eye.

42. (previously presented) The method of claim 24 wherein a therapeutic agent is administered to the eye to treat retinal detachment, vascular occlusion, proliferative retinopathy, diabetic retinopathy, inflammation, degenerative disease, vascular disease or a tumor.

43. (previously presented) The method of claim 24 wherein the therapeutic agent is administered sub-retinally within the eye.

S. Varner, et al.
Serial No. 09/888,079
Page 5 of 18

44. (previously presented) The method of claim 24 wherein the cannula is positioned within subretinal space of the eye and a therapeutic agent is injected from the cannula into the subretinal space.

45. (previously presented) The method of claim 23 further comprising removing material from the eye with the device.

46. (previously presented) The method of claim 45 wherein intravitreal fluid is removed from the eye.

47. (previously presented) The method of claim 23 wherein the outer diameter of the piercing member is small enough to allow the insertion site to self-seal following withdrawal of the piercing member from the eye.

48. (canceled)

49. (previously presented) The method of claim 27 wherein the piercing member is inserted into the sclera of the eye.

50. (previously presented) The method of claim 27 wherein the piercing member is advanced tranconjunctivally through the eye.

51. (previously presented) The method of claim 27 wherein the cannula comprises a polymer.

52. (previously presented) The method of claim 27 wherein the treating comprises administering to the eye a therapeutic agent through the cannula.

53. (previously presented) The method of claim 52 wherein a steroid is administered to the eye.

S. Varner, et al.
Serial No. 09/888,079
Page 6 of 18

54. (previously presented) The method of claim 52 wherein a therapeutic agent is administered to the eye to treat retinal detachment, vascular occlusion, proliferative retinopathy, diabetic retinopathy, inflammation, degenerative disease, vascular disease or a tumor.

55. (previously presented) The method of claim 52 wherein the therapeutic agent is administered sub-retinally in the eye.

56. (previously presented) The method of claim 27 wherein the treating comprises removing material from the eye with the device.

57. (previously presented) The method of claim 56 wherein intravitreal fluid is removed from the eye.

58. (previously presented) The method of claim 52 wherein the cannula is positioned within subretinal space of the eye and a therapeutic agent is injected from the cannula into the subretinal space.

59. (previously presented) The method of claim 27 wherein the outer diameter of the piercing member is small enough to allow the insertion site to self-seal following withdrawal of the piercing member from the eye.

60. (previously presented) A method for treating an eye comprising:
inserting into an eye a device comprising an outer member having a proximal end and a distal end, a cannula slidably disposed within the outer member, and a piercing member at the distal end of the outer member, wherein the step of inserting the device into the eye comprises piercing the eye with the piercing member and advancing the piercing member and at least a portion of the outer member into the eye;

advancing the cannula through the outer member and beyond the distal end to the treatment site; and

S. Varner, et al.
Serial No. 09/888,079
Page 7 of 18

treating the eye by administering and/or aspirating material through the cannula.

61. (previously presented) The method of claim 60 wherein the device is inserted into the sclera of the eye.

62. (previously presented) The method of claim 60 wherein the device is advanced transconjunctivally through the eye.

63. (previously presented) The method of claim 60 wherein the cannula comprises a polymer.

64. (previously presented) The method of claim 60 wherein the step of treating the eye comprises administering to the eye a therapeutic agent with the device.

65. (previously presented) The method of claim 64 wherein the therapeutic agent is administered through the cannula to the treatment site.

66. (previously presented) The method of claim 64 wherein a steroid is administered to the eye.

67. (previously presented) The method of claim 64 wherein a therapeutic agent is administered to the eye to treat retinal detachment, vascular occlusion, proliferative retinopathy, diabetic retinopathy, inflammation, degenerative disease, vascular disease or a tumor.

68. (previously presented) The method of claim 64 wherein the therapeutic agent is administered sub-retinally within the eye.

69. (previously presented) The method of claim 64 wherein the cannula is positioned within the subretinal space of the eye and a therapeutic agent is injected from the cannula into the subretinal space.

S. Varner, et al.
Serial No. 09/888,079
Page 8 of 18

70. (previously presented) The method of claim 60 further comprising removing material from the eye with the device.

71. (previously presented) The method of claim 70 wherein intravitreal fluid is removed from the eye.

72. (previously presented) The method of claim 60 wherein the outer diameter of the outer member is small enough to allow the insertion site to self-seal following withdrawal of the piercing member from the eye.

73. (previously presented) The method of claim 60 wherein the outer member outer diameter is about 25 gauge or less.

74. (previously presented) The method of claim 23 wherein the piercing member creates an opening in the eye that is self-sealing.

75. (previously presented) The method of claim 27 wherein the piercing member creates an opening in the eye that is self-sealing.

76. (previously presented) The method of claim 60 wherein the piercing member creates an opening in the eye that is self-sealing.

77. (previously presented) The method of claim 23 or 60, further comprising the step of angling the piercing member, after the piercing member is within the vitreous humor of the eye in any direction so as to guide the cannula to any treatment site within the eye.

78. (previously presented) The method of claim 77, wherein the piercing member is angled so as to treat multiple treatment sites with a single insertion of the piercing member into the eye.

S. Varner, et al.
Serial No. 09/888,079
Page 9 of 18

79. (previously presented) The method of claim 27 further comprising, after treating the treatment site, angling the piercing member to a different direction so as to guide the cannula towards a second treatment site; advancing the cannula to the second a treatment site; and treating the second treatment site.